

1. (Currently Amended) A method for controlling an automotive vehicle comprising:

determining a steering wheel characteristic;

determining the vehicle is in a U-turn in response to the steering wheel characteristic; [[and]]

generating a U-turn in response determining the vehicle is in a U-turn;
and

applying brake-steer in response to the U-turn signal.

2. (Original) A method as recited in claim 1 wherein applying brake-steer comprises applying at least one brake at a first wheel to reduce a vehicle turning radius.

3. (Original) A method as recited in claim 1 wherein applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel.

4. (Original) A method as recited in claim 1 applying brake-steer comprises increasing the normal load on a rear wheel.

5. (Original) A method as recited in claim 1 applying brake-steer comprises increasing the normal load on a front wheel.

6. (Currently Amended) A method as recited in claim [[1]] 37 wherein the steering wheel characteristic comprises further comprising determining the vehicle is in a U-turn in response to a steering wheel direction.

7. (Currently Amended) A method as recited in claim [[1]] 6 wherein the steering wheel direction comprises an increasing direction and a decreasing direction wherein applying varying the amount of brake-steer comprises applying brake-steer using a first boost curve in the first direction, and applying brake-steer using a second boost curve in the second direction, wherein the first boost curve is different than the second boost curve.

8. (Original) A method as recited in claim 7 wherein the first boost curve comprises a non-linear-boost curve.

9. (Original) A method as recited in claim 7 wherein the first boost curve increases brake-steer at a first rate for a first period of time, increases brake-steer at a second rate for a second period of time wherein the second rate is greater than the first rate, and increases brake-steer at third rate for a third period of time wherein the third rate is less than the second rate.

10. (Original) A method as recited in claim 7 wherein the second boost curve comprises a non-linear-boost curve.

11. (Original) A method as recited in claim 7 wherein the second boost curve decreases brake-steer at a first rate for a first period of time, and decreases brake-steer at a second rate for a second period of time, wherein the second rate is less than the first rate.

12. (Currently Amended) A method as recited in claim 1 wherein ~~determining the vehicle is in a U-turn comprises determining the vehicle is in a U-turn in response to the steering wheel characteristic comprises a steering wheel angle.~~

13. (Currently Amended) A method as recited in claim [[1]] 12 wherein determining the vehicle is in a U-turn comprises determining the vehicle is in a U-turn in response to [[a]] the steering wheel angle and a vehicle speed.

14. (Original) A method as recited in claim 1 wherein brake-steer is applied until the vehicle speed exceeds a U-turn speed threshold.

15. (Currently Amended) A method as recited in claim 1 wherein determining the vehicle is in a U-turn comprises determining the vehicle is in a U-turn in response to a yaw rate and the steering wheel characteristic.

16. (Currently Amended) A method as recited in claim 1 wherein determining the vehicle is in a U-turn comprises determining the vehicle is in a U-turn in response to a yaw rate, the steering wheel characteristic and a vehicle speed.

17. (Currently Amended) A method as recited in claim 1 wherein determining the vehicle is in a U-turn comprises determining the vehicle is in a U-turn in response to a throttle position and the steering wheel characteristic.

18. (Original) A method as recited in claim 1 wherein determining the vehicle is in a U-turn comprises determining the vehicle is in a U-turn in response to a steering wheel rate and steering wheel angle.

19. (Original) A method as recited in claim 1 wherein determining the vehicle is in a U-turn comprises determining the vehicle traveled straight followed by a sharp turn with an increasing vehicle speed and high steering wheel angle.

20. (Currently Amended) A system for controlling an automotive vehicle comprising:

means to determine a steering wheel characteristic;

means to generate a U-turn signal when the vehicle is in a U-turn in response to the steering wheel characteristic; and

a controller coupled to said means to generate, said controller programmed to apply brake-steer to the vehicle in response to the U-turn signal.

21. (Currently Amended) A system as recited in claim 20 wherein means to generate a U-turn signal comprises a vehicle velocity sensor and the means to determine a steering wheel characteristic comprises a steering wheel angle sensor.

22. (Original) A system as recited in claim 20 wherein means to generate a U-turn signal comprises a plurality of wheel speed sensors generating a plurality of wheel speeds.

23. (Currently Amended) A system as recited in claim 20 wherein means to generate a U-turn signal comprises a [[25]] yaw rate sensor.

24. (Currently Amended) A system as recited in claim [[20]] 23 wherein means to generate a U-turn signal further comprises a vehicle velocity sensor.

25. (Currently Amended) A system as recited in claim 20 wherein means to generate a U-turn signal comprises a throttle position sensor and a yaw rate sensor.

~~vehicle has traveled turn with an increasing~~

26. (Original) A system as recited in claim 20 wherein means to generate a U-turn signal comprises means to determining the vehicle has traveled straight followed by a sharp turn with an increasing vehicle speed and high steering wheel angle.

27. (Currently Amended) A system as recited in claim 20 wherein said controller is programmed to brake-steer by applying a first brake and a second brake reduce the turning radius of the vehicle.

28. (Original) A system as recited in claim 20 wherein said controller is programmed to brake-steer by applying at least one brake at a first wheel to reduce a vehicle turning radius.

29. (Original) A system as recited in claim 20 wherein said controller is programmed to brake-steer by applying an increased drive torque to a second wheel relative to the first wheel.

30. (Currently Amended) A control system as recited in claim 20 further comprising wherein the means to determine a steering wheel characteristic comprises a steering wheel angle sensor generating a steering wheel angle signal, said controller programmed to apply brake-steer in response to the U-turn direction signal and the steering wheel angle signal.

31. (Currently Amended) A control system as recited in claim 20 further comprising a yaw rate sensor generating a yaw rate signal, said controller

programmed to apply brake-steer in response to the U-turn ~~direction~~ signal and yaw rate signal.

32. (Currently Amended) A control system as recited in claim 20 further comprising wherein the means to determine a steering wheel characteristic comprises a steering wheel torque sensor generating a steering torque signal, said controller programmed to apply brake-steer in response to the U-turn ~~direction~~ signal and steering torque signal.

33. (Currently Amended) A control system as recited in claim 20 further comprising wherein the means to determine a steering wheel characteristic comprises a steering wheel angle sensor generating a steering wheel angle signal and a vehicle velocity sensor generating a vehicle velocity signal, said controller programmed to apply brake-steer in response to the U-turn ~~direction~~ signal and steering wheel angle and vehicle velocity signal.

34. (New) A method as recited in claim 1 wherein the steering wheel characteristic comprises steering wheel direction.

35. (New) A method as recited in claim 1 wherein the steering wheel characteristic comprises steering wheel torque.

36. (New) A method as recited in claim 1 wherein the steering wheel characteristic comprises steering wheel angular rate.

37. (New) A method as recited in claim 1 wherein applying brake-steer in response to the U-turn signal comprises varying the amount of brake steer in response to the steering wheel characteristic.

38. (New) A method as recited in claim 37 wherein the steering wheel characteristic comprises steering wheel angle.

39. (New) A method as recited in claim 37 wherein the steering wheel characteristic comprises steering wheel torque.

40. (New) A method as recited in claim 37 wherein the steering wheel characteristic comprises steering wheel angular rate.

41. (New) A system as recited in claim 20 wherein the means to determine a steering wheel characteristic comprises a steering wheel angle sensor and the characteristic comprises a steering wheel direction.

42. (New) A system as recited in claim 20 wherein the means to determine a steering wheel characteristic comprises a steering wheel angle sensor and the characteristic comprises a steering wheel rate.

43. (New) A system as recited in claim 20 wherein the controller varies the amount of brake steer in response to the steering wheel characteristic.

44. (New) A system as recited in claim 43 wherein the steering wheel characteristic comprises steering wheel angle.

46. (New) A method as recited in claim 43 wherein the steering wheel characteristic comprises steering wheel torque.

47. (New) A method as recited in claim 43 wherein the steering wheel characteristic comprises steering wheel angular rate.